

## ABSTRACT OF THE DISCLOSURE

A porous film having a crosslinking polymer supported thereon, which can preferably be used for producing a gel electrolyte battery having sufficient adhesion between the electrodes and the separator, low internal resistance and high rate performance, and which can function as a separator in a battery, and a method for producing a gel electrolyte battery using such a crosslinking polymer-supported porous film. The crosslinking polymer-supported porous film for battery separator comprises a porous film substrate having supported thereon a crosslinking polymer having plural cation-polymerizable functional groups in the molecule. The method for producing a battery, includes the steps of: laminating electrodes on the crosslinking polymer-supported porous film to prepare a laminate of crosslinking polymer-supported porous film/electrodes; placing the laminate in a battery container; and pouring an electrolyte solution containing a cation polymerization catalyst in the battery container to induce cation polymerization and crosslinking of the crosslinking polymer, thereby at least partially gelling the electrolyte solution to adhere the porous film and the electrodes.